



Petra A. Vorwig
Vice President, Legal & Regulatory Affairs

January 19, 2021

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L St. NE
Washington, DC 20554

**Re: Notice of *Ex Parte* Presentation, *Expanding Flexible Use of the 3.7-4.2 GHz Band*, GN
Docket No. 18-122**

Dear Ms. Dortch:

On Friday, January 15, 2021, the undersigned of SES Americom, Inc. ("SES") and Peter Davidson of Intelsat US LLC ("Intelsat") spoke with Umair Javed, Legal Advisor for Wireless and International to Commissioner Jessica Rosenworcel.

During the meeting, the representatives of SES and Intelsat provided a status update on the C-band transition.¹ In brief, the accelerated relocation is on schedule, and SES and Intelsat expect to satisfy their clearing obligations by the Commission's aggressive transition deadlines. The representatives also explained that SES and Intelsat are buying American, creating jobs, and investing billions of dollars in small and large businesses throughout the United States to make this critical mid-band spectrum available for 5G by later this year.

Pursuant to Section 1.1206(b) of the Commission's rules, I am filing this letter electronically in the above-referenced docket. Please contact me directly with any questions.

Yours Sincerely,

/s/ Petra A. Vorwig
Petra A. Vorwig

¹ See Attachment A

C-Band Transition Progress and Outlook

January 2021



Clearing C-Band Spectrum for 5G

The next generation of mobile communications technology, **5G**, will be one of the **most important drivers of innovation and economic growth** over the next two decades.

For 5G to be deployed, U.S. wireless operators need access to the **C-band**, a band of spectrum currently used by Satellite Operators serving U.S. broadcasters and programmers to **provide TV and radio to nearly 120 million American homes**, as well as other critical data transmission services.

The FCC spent two years carefully developing a **plan to clear 280 MHz of C-band spectrum for 5G mobile services** (plus a 20-MHz guard band) in the contiguous United States (CONUS) and established accelerated clearing deadlines to ensure spectrum is cleared quickly, while preserving existing TV and radio services.

To **deliver on the clearing milestones** set out in the FCC's Order, SES and Intelsat are hard at work installing equipment and procuring satellites necessary to provide service continuity to their existing customers, while simultaneously clearing 280 MHz of spectrum for 5G.

C-Band Report and Order

Transition of existing satellite customers:

Protecting TV and radio services while moving them to upper 200 MHz of C-band

Clearing of 300 MHz :

Building out equipment to make room for 5G deployments in lower 280 MHz of C-band

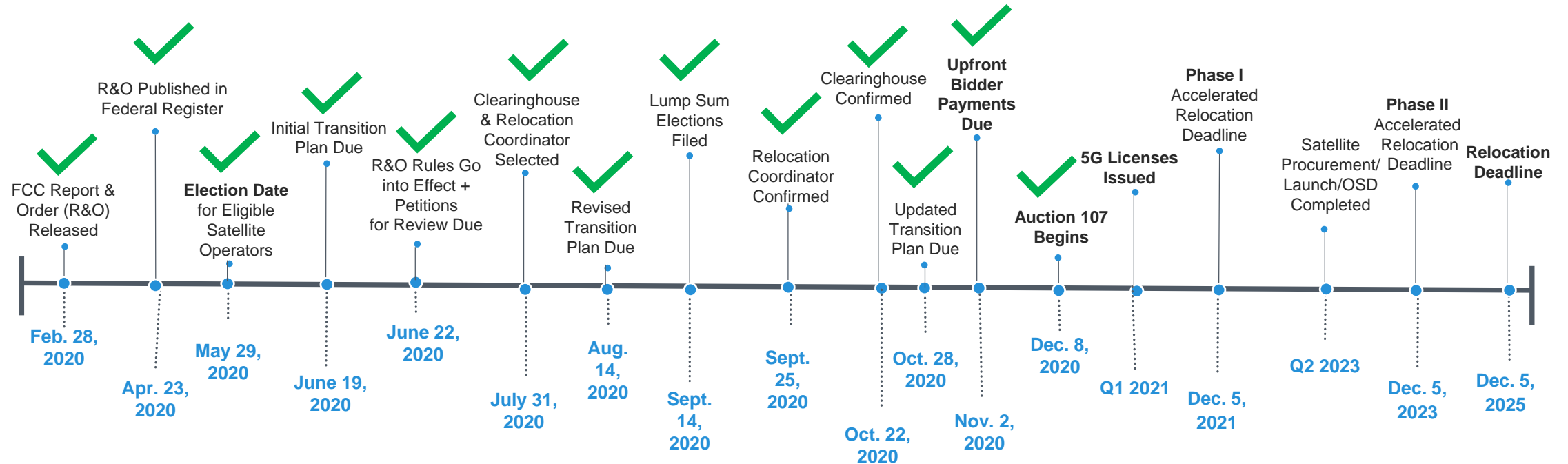
Accelerated relocation payments:

Incentivize satellite operators to clear spectrum quickly, creating more value

Auction of cleared spectrum:

Allows bidders to secure the spectrum they need for widespread 5G in the U.S.

C-Band Transition Milestones



STATUS: On track to clear 120 MHz of spectrum for the deployment of 5G in high-demand areas by 5 Dec 2021 and 300 MHz throughout CONUS by 5 Dec 2023. All regulatory milestones have been met.

Overview – SES and Intelsat Combined

Install 500+ antennas, 20,000+ filters, and 30,000+ satellite receivers at 50,000+ Incumbent Earth Stations to maintain and protect U.S. TV and radio services during and after the transition.

Launch 11 satellites to ensure continuity of service for video, data, and U.S. government users.

Build out 4 teleports and 20 large antennas to make room for 5G deployments throughout CONUS.

FCC auction allowing bidders to secure the spectrum they need for widespread 5G in the U.S.

Seamless continuation and protection of existing TV and radio services delivered via C-band to nearly 120 million homes.

Rollout of 5G in 46 top U.S. markets as early as December 2021 and to all Americans in contiguous U.S. (CONUS) by December 2023.



Program Investment: SES and Intelsat Combined



13 satellites (including ground spares)

~\$1.78B



8 satellite launches (includes backup satellite launches)

~\$730M



4 major teleport facilities

~\$151M



>50,000 earth station equipment

~\$674M



Total program

Over \$3.0 B committed to date

~\$3.3B



Economic Impact of the C-Band Transition

Hundreds of U.S. employees will make it happen

Superior Satellite in Columbia Falls, MT is conducting outreach to IESs to gather information necessary to the transition

SES partner Viking Satcom has enlisted Wisconsin antenna manufacturer DH Satellite

STS Global from Stony Brook, NY is supporting the build-out of SES's TT&C and gateway stations

Verizon's Andover teleport will host >6 large antennas and incur >\$15M in infrastructure upgrades for TT&C needs

The USEI Brewster teleport will host 14 antennas and receive \$16M in infrastructure upgrades for TT&C needs

The Hawley PA teleport will be the center of TT&C operations and satellite connectivity for SES and a major employer for rural Hawley

SES has engaged over 300 employees and consultants across the company with program management centralized in Princeton, NJ

Intelsat ordered 6 satellites from Maxar supporting hundreds of manufacturing jobs

Boeing is manufacturing a pair of highly efficient all-electric 702SP satellites for SES

SpaceX will provide 3 launches by the end of 2023, involving 10s of employees for 2+ years

Intelsat is hiring 25+ employees to support the initiative

Northrop Grumman will produce 3 satellites, employing 10s of aerospace engineers

USSI will receive, store, configure, and ship 40k IRDs

CPI is building \$50M+ worth of TT&C antennas in Texas and Hawaii

ULA in Centennial, CO will launch two SES satellites from Cape Canaveral, FL

Michigan-based Viking Satcom is responsible for ordering, testing, storing and shipping equipment

SES

INTELSAT

Ecosystem Partners: SES & Intelsat

Satellite Manufacturers

MAXAR

**NORTHROP
GRUMMAN**

BOEING

**ThalesAlenia
Space**
a Thales / Leonardo company

Affiliate Services

USSIglobal

NATCI

WESCO®

CONVERGENT™

SSE

**SUPERIOR SATELLITE
ENGINEERS**

Antennas & Equipment

GENERAL DYNAMICS
Mission Systems

KRATOS

PA Satellite

**SES
GLOBAL**

MFC
MicroWave Fiber Company, Inc.

**VIKING
SATCOM**

Compression Vendors

COMMScope® **harmonic** **Synamedia**

Teleport Operators

US ELECTRODYNAMICS, INC.

INTERNATIONAL GATEWAYS
"BRIDGING THE WORLD TOGETHER"

verizon

AT&T

Satellite Launchers

SPACEX

arianespace

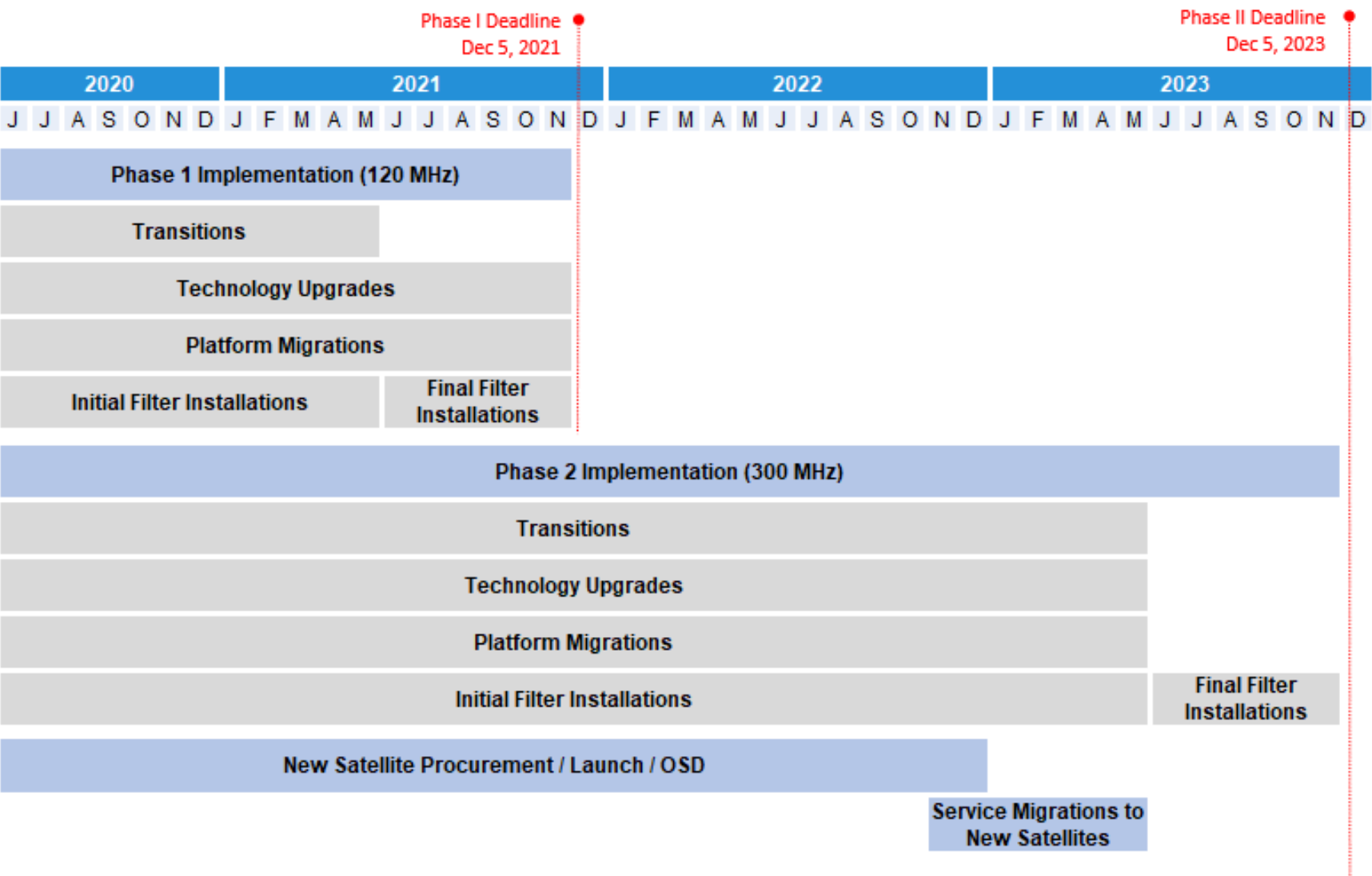
ULA

80% of the \$3.3B will be paid to U.S. companies.

SES

INTELSAT

C-Band Transition Activities: Phases I and II



Appendix: C-Band Transition Progress

Progress

Installing antennas and satellite ground control equipment at USEI Teleport in Brewster, WA to ensure continued safe satellite operations.



Transition Activities



Complete

- File plan with FCC
- Hire companies to build satellites necessary to transition customers
- Hire companies to launch satellites
- Establish communications channels to manage Earth Station concerns



In Progress

- Manufacture the satellites
- Set up a database to ensure efficient roll-out and accurate accounting
- Partner with industry groups to understand their questions and share best practices
- Outreach to ensure all Incumbent Earth Stations accessing satellites have been accounted for
- Outreach to earth station operators to schedule equipment installation by operator-hired teams
- Hire U.S. companies to help install/retune ground equipment
- Hire U.S. companies to build gateway and TT&C systems
- Deploy teams to earth stations to install antenna equipment filters
- Install antennas and satellite ground control equipment at TT&C locations to ensure continued safe satellite operations
- Consolidate gateway services to allow ongoing receipt of international video content and to support valuable data services
- Begin customer migrations



Not Yet Started

- Launch satellites
- Raise the satellites to their testing orbital locations
- Complete testing
- Move the satellites to their final orbital locations and initiate service on the satellites
- Migrate services from old satellites to new satellites

Transition Activities (cont.)

We remain on track and in some cases are ahead of schedule. We have:

- Conducted substantial outreach to Incumbent Earth Station (IES) operators to refine our list of claimed IESs.
- Contacted IES operators, through our primary equipment installation vendor, in a “virtual site survey” that identified each site’s individual needs.
- Onboarded nearly all the vendors we need to complete our Phase I and Phase II clearing obligations.
- Ordered nearly all filters and are well underway in completing the technology upgrades needed for transitioning services.
- Procured satellite contracts to meet clearing obligations, and signed contracts to launch the satellites.
- SES has completed 49% and Intelsat has completed 51% of Phase I service transitions on the satellites.
- Thousands of integrated receiver/decoders have been delivered to earth stations and a significant portion of equipment has also been shipped to relevant customer uplink locations.
- Remained on target in the construction of TT&C/Gateway facilities in Andover, ME, Brewster, WA, and Hawley, PA.

